

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-5 (Cancelled).

6. (Original) An apparatus for implanting ions on a surface of a substrate, the apparatus comprising:

a scanning device for reciprocatively scanning an ion beam in an X direction and a Y direction orthogonal thereto by an electric field or a magnetic field;
a rotating device for rotating the substrate around a center of the substrate;
a control device for controlling one of the scanning device and the rotating device;

wherein the control device changes one of a scanning speed of the ion beam in the X direction and a scanning speed of the ion beam in the Y direction so that ion implantation is performed in order to separate two implanted regions on the substrate with different dose amounts, the control device controls the rotating device to rotate the substrate around its center by a predetermined angle after the ion implantation while the ion beam is not applied to the substrate, and the control device control to repeat the ion implantation and the rotation.